state program implementation guide: hazardous waste transportation control

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STATE PROGRAM IMPLEMENTATION GUIDE: HAZARDOUS WASTE TRANSPORTATION CONTROL

This publication (SW-512) was prepared by C.H. Porter

U.S. ENVIRONMENTAL PROTECTION AGENCY
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STATE PROGRAM IMPLEMENTATION GUIDE: HAZARDOUS WASTE TRANSPORTATION CONTROL

Introduction

The primary objective of a comprehensive hazardous waste management program is to make certain that hazardous wastes are properly handled to prevent undue harm to human health or the environment. The elements of a comprehensive hazardous waste management program must include reporting by waste generators, the regulation of temporary waste receptors (i.e., storage and transfer facilities), the regulation of permanent waste receptors (i.e., reprocessing, treatment, and disposal facilities), and the regulation of waste transportation. Even though hazardous waste transportation control is only one element of a hazardous waste management program, it is a key element because it allows a State to follow and control the movement of hazardous wastes within its jurisdiction. The key uses of a waste transportation control program are to insure that hazardous wastes are transported to appropriate waste receptors; to promote safety on the highway and at waste receptor sites; and to generate information for planning and surveillance purposes.

The basis for any State hazardous waste management program is, of course, the legislation which authorizes the program development and implementation. This paper discusses the elements of a hazardous waste transportation control program and how such a program may be implemented. This publication is one of a series of guides developed by the Office of Solid Waste Management Programs of the U.S. Environmental Protection Agency to assist States in implementing effective hazardous waste management programs.

Scope of Regulation

A waste transportation control system can be developed to regulate any type of waste. The most inclusive system would require all waste haulers (municipal solid waste haulers as well as liquid and industrial waste haulers) to obtain permits. Some States may wish to implement a program which regulates the transportation of all wastes, but this approach is too broad for the purposes of hazardous waste management.

A limited regulatory system would require only liquid waste haulers to obtain permits. Even though liquid wastes are usually defined to include sludges and slurries, this approach is too limited for hazardous waste management purposes because it excludes from regulation up to 30 percent of the total quantity of hazardous wastes which are generated.

Another alternative is to require only those haulers who handle and transport industrial and commercial process wastes to obtain permits. This approach makes it possible for States to regulate haulers who handle hazardous wastes as well as other industrial process wastes, whether solid, liquid, or contained gases.

Due to limited resources, some States have limited their licensing and permitting efforts to those haulers who offer their services "for hire." This approach fails to regulate a large quantity of wastes which are transported by the waste generators themselves. Wastes which are carried by the captive or private haulers can be just as hazardous as the wastes carried by the haulers for hire, thus this distinction should be avoided.

Recommended Requirements and Procedures for a State Program

The Permit System. Any individual or corporation wishing to transport hazardous waste within a State's jurisdiction should be required to obtain a permit from that State. Permits should be valid for a limited period (e.g., twelve months) and renewable upon reapplication. Application for a hazardous waste transportation permit should be made prior to expiration of the existing permit. The State should specify an adequate time period (e.g., forty-five days) for review and evaluation.

Application for a hazardous waste transportation

permit should be made on a form issued by the State. The permit application should require at a minimum, general information about the applicant's business including the name; the names and titles of the individuals responsible for the business (i.e., owner, president, etc.); the business' mailing address; the location of waste handling and transportation related facilities (i.e., garages, temporary storage sites, etc.); and a business identification number (e.g., a State tax number). The permit application should include a description of each major piece of equipment which will be used to handle and transport hazardous wastes. Equipment capacities and the materials of construction should be Auxiliary equipment such as pumps, hoses, valves, specified. and non-sparking tools should also be described. The applicant should list the types and quantities of wastes which he anticipates will be handled, the origin of the wastes, and the destination of the wastes. The application should also describe the methods which will be used to dispose of rinsate from tank and container cleaning operations. A responsible official of the business should certify that the information provided in the application is correct.

The application form should be designed so that the information from the form can be easily transferred to computer storage. Appendix A is an example of such a form which is used by the New Jersey State Department of Environmental Protection to register solid and liquid waste collectors and haulers. It does not require all of the information which should be included with a hazardous waste transportation permit application, but is an example of a form which can be easily processed for computer storage. Appendix B is a sample permit application which could be used to obtain information from a hazardous waste hauler. Instructions describing the information which is necessary to complete a permit application form should be provided to each potential applicant.

Permit applications should be evaluated to determine if an applicant has the proper equipment to handle the wastes which he proposes to handle. State personnel should visit an applicant's site if there are any serious questions as to his ability to handle hazardous wastes in an environmentally acceptable manner. In some cases it may be desirable to issue permits with conditions to restrict the wastes which can be transported, to prohibit the mixing of certain wastes (e.g., acids and cyanides), or to require that specific procedures be followed when handling certain wastes.

Permit expiration dates should be staggered so that approximately one-twelfth of the permits expire at the end of each month. Staggering the expiration dates will

allow the State staff to distribute its workload over the year.

During the life of a permit, the waste hauler may wish to amend the permit for various reasons (i.e., new customers, additional wastes, new equipment, etc.). The permit system should be flexible enough to allow amendments to the permit application and thus to the permit.

Figure 1 is an example of a hazardous waste transportation permit. This form includes the data discussed above (i.e., equipment description, permit conditions, pertinent identification information, etc.).

Equipment Identification. Each major piece of all hazardous waste handling and transportation equipment (i.e., trucks, railroad cars, etc.) should be identified with a State identification number. The identification number should not be changed during the life of the equipment. The number should be prominently displayed on the equipment.

In addition to the State identification number, a current permit sticker should be affixed to the hazardous waste transportation equipment. The purpose of this sticker is to indicate that the equipment is currently licensed by the State. The equipment operator should also carry a copy of the State hazardous waste transportation permit for that piece of equipment.

Figure 2 is an example of an equipment identification sticker which includes a serial number, a reference to the pertinent State authorities, and the permit expiration date.

The equipment identification number and sticker will make it easier for hazardous waste shippers, hazardous waste disposal or treatment site operators, and State enforcement personnel to identify equipment which has been authorized to carry hazardous wastes.

Hazardous Waste Shipping Papers. Each hazardous waste hauler should carry shipping papers which describe the hazardous wastes being transported. The shipping papers should indicate the quantity and composition of the waste, specific hazards, and the precautions which should be taken in the event of emergency (i.e., fire, spillage, etc.).

In addition to the waste description, the shipping papers should identify the shipper, the hauler, and the destination of the waste. General information about each

STATE OF			
HAZARDOUS	WASTE	TRANSPORTATION	PERMIT

located
is hereby granted a permit to handle
and transport hazardous waste in the State of using the equipment
described below and in accordance with State laws, the rules and regulations of the
State Department of Environment, and the following conditions:
 This permit is issued only for the equipment described below and is not transferable;
b. Neither the permit holder nor his agent shall deposit hazardous waste at any treatment or disposal site which does not have a current permit for hazardous waste treatment or disposal;
c. A copy of this permit shall be carried with the equipment described below and shall be available for inspection at the request of any shipper, treatment or disposal site operator, or any State or local official;
 d. The equipment operator shall carry properly completed shipping papers and the equipment shall bear the proper placarding;
e. This permit shall expire on the last day of, 19; and
f. Other conditions which the Department of Environment deems appropriate and necessary and are listed on the reverse side of this permit.
Hazardous waste transportation equipment description:
Dated thisday of, 19
Director
Permitee's Identification No.:
Equipment Identification No.:

Figure 1. An example hazardous waste transportation permit.

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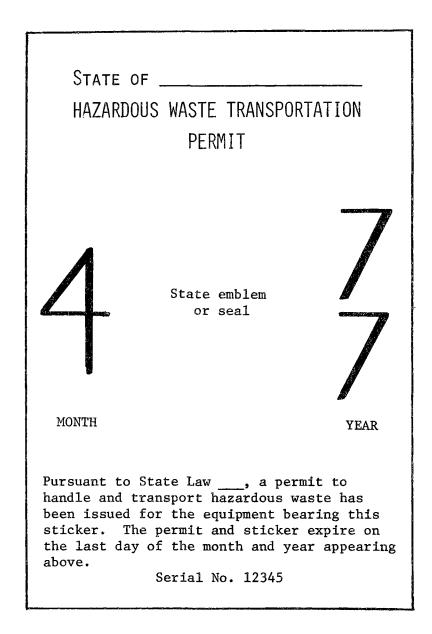


Figure 2. An example hazardous waste transportation equipment identification sticker.

including locations, telephone numbers, and State identification numbers should be shown on the shipping papers. The shipping papers should also provide a place for waste generators to certify that the description of the waste material is correct; the hauler to certify that the wastes were delivered to the designated destination; and the treatment/disposal site operator to certify that the wastes were received.

Copies of the shipping papers should be mailed to the State by the shipper and the treatment/disposal site operator at least once every month.

The shipping papers should be in such a format so that they can be easily coded for computer storage. Instructions should be provided with the shipping papers so that all parties are aware of the information requirements. The California Water Resources Control Board and the California Department of Health have developed hazardous waste shipping papers and instructions for the hazardous waste haulers in California. Appendix C is an example of the form which shipping papers could take.

Accident and Incident Reporting. Immediate notice of an accident or incident should be given to the State if a person is killed or hospitalized; if property damage exceeds \$50,000; radioactive or etiologic agents are involved; or if a continuing danger to life exists at the scene of the accident or incident. Any other accident or incident which results in the unintentional release of a hazardous waste or structural damage to hazardous waste equipment should be reported to the State within 15 days.

Appendix D shows the form which is required by the U.S. Department of Transportation (DOT) to report incidents involving hazarous materials. To avoid duplicative effort by hazardous waste haulers, each State could require haulers to submit copies of the DOT form to the State for accidents or incidents involving hazardous wastes. The haulers should include their State identification and permit numbers with the other information required by the form to facilitate the processing of the information.

Equipment Inspections. Each permit applicant should be able to demonstrate that he has established a viable program for inspecting equipment. An inspection program should include a schedule for equipment inspection and a checklist of specific areas or points which should be inspected.

Both the schedule and the checklist should be submitted with the permit application.

Each piece of hazardous waste handling and transportation equipment should be inspected periodically by the owner or operator of the equipment. Permit holders should be required to maintain records showing when the equipment was inspected, problems observed during the inspections, and any maintenance performed on the equipment.

Valves, gaskets, hoses, and cargo compartment seams are particularly vulnerable and should be given special attention during equipment inspections. Potential problems which are found during inspections should be corrected immediately.

Record Keeping. In addition to inspection and maintenance records, permit holders should keep records showing the customers they service, the quantities and compositions of wastes which were carried, the frequency of shipment, and the destination of each shipment.

Data Handling

The quality of data generated by the hazardous waste transportation control program depends upon the quality of each individual data element which is gathered. For the program discussed in this paper, three types of data gathering forms would be necessary: the permit application, the hazardous waste shipping papers, and the accident/incident report. The quality of the data generated will be a reflection of the quality of the data gathering forms and the quality of the instructions which accompany those forms. Forms and instructions should therefore be designed and written to be compatible with an overall system of data gathering, processing, and reporting.

Permit Application. A file should be established upon receipt of a new hazardous waste transportation permit application. If an application is approved, the hauler's name and mailing address should be placed in a "tickler" file so that a new permit application will be mailed to the hauler at least sixty days prior to the expiration of the permit.

At the end of each month the State should prepare a report indicating the number of permit applications (new or renewal) received during the month; the names, addresses, and permit numbers of those applicants who received a permit

during the month; the number of applications rejected during the month; and the number of applications which are still pending approval/disapproval on the last day of the month. This report will assist the State to maintain a current directory of active hazardous waste haulers.

Hazardous Waste Shipping Papers. At the end of each month the State should identify the shipping papers which were received from either the shipper or the waste receptor, but not from both. If the shipper's copy is missing, the State should identify the name, address, and telephone number of the shipper, the hauler, and the waste receptor, and the serial number of the shipping paper. If the waste receptor's copy is missing the State should identify the name, address, and telephone number of the hauler, and the serial number of the shipping paper.

A report should be prepared at the end of each month which compiles the serial numbers of the missing copies of shipping papers and the names, addresses, and telephone numbers of the shippers, wastes receptors and/or haulers. The total number of sets of shipping papers which were received from both the waste shipper and the waste receptor should also be reported. This report will assist the State to improve data quality and to identify flagrant violators.

Two other types of reports are also recommended to be prepared each month. The first of these should summarize the activities of the waste receptors. The information which should be reported includes the name of each waste receptor, an estimate of the hazardous waste transported to the receptor, the quantity of waste transported to the receptor during the previous month, the method of disposal (i.e., recovery, treatment, incineration, etc.), and the quantities of waste in each hazard category (i.e., toxic, flammable, corrosive, explosive, etc.).

The second report should list all of the waste haulers who hold hazardous waste transportation permits but did not transport any hazardous wastes during the month. This report will assist the State to identify the hazardous waste haulers who may not be complying with program requirments.

Accident and Incident Reports. When accident and incident reports are received, they should be maintained

in a file with the waste hauler's permit application. At the end of each month the State should prepare a report identifying the total number of accidents or incidents; the number of accidents or incidents which required immediate reporting; and the number of accidents or incidents which were a result of equipment failure, operator error, etc. This information should be used to identify hazardous waste transportation problem areas and to improve each hauler's safety fitness.

Automatic Data Processing

Both manual and automatic data processing methods could be employed to process the data, however, the volume of data accumulated during a month will probably necessitate the use of automatic data processing equipment by most States. The use of automatic data processing equipment will make it easier to produce the various monthly reports, but it will also necessitate the development of a coding system and the use of stringent quality control measures.

Coding Systems and Dictionary. To facilitate the processing of data with automatic data processing equipment a numerical coding system and dictionary should be developed. Coding systems provide an efficient method of compiling data and reduce the probability of errors due to variations in spelling of names. The most desirable coding scheme is one which is familiar to the users and for which a dictionary is already avalilable. As an example, data source identification numbers can be derived from listings such as State tax code numbers, the Dun and Bradstreet code numbers, and Federal Employer Identification Numbers. Chemical compounds can be identified with the codes found in the Registry of Toxic Effects of Chemical Substances. 2

New coding schemes may have to be developed for other portions of the data gathering forms. In the event that new coding schemes are developed, new dictionaries should also be developed and made available to all users.

Quality Control. In implementing a new system such as the one discussed here, it is important that the data which is received from the various data sources (e.g., shippers, haulers, and waste receptors) be closely monitored for quality. If these data sources realize that discrepancies

will be noticed, they will attempt to supply better data. If sloppy data passes through the system without question, there will be no incentive for improvements.

When new forms are first used, an extra review step should be included in the data processing procedure. All incoming forms should receive a preliminary review to insure that codes on the forms match the textual information on the forms. Data sources which make errors should be contacted to discuss the errors. The duration of this extra review step would depend on the number of irregularities identified each month and cannot be estimated exactly. A duration of three months may be sufficient.

To insure continuing quality, a minimum of one percent of the forms submitted should be selected at random for review and validation throughout the entire life of the hazardous waste transportation control program. Inconsistencies, obvious errors, and other types of problems should be recorded along with the name, address, and telephone number of the data source which made the error. The data source should be contacted to encourage correction of the error. Chronic violators of the law should be investigated and prosecuted if necessary. A summary tally of errors should be kept to project the number and types of errors which would be present in the full sample.

Review of the data gathering forms during the keypunching step can help eliminate simple coding errors. Errors inherent to the keypunching step are also introduced during this phase of data handling. To eliminate the necessity of keypunching the data altogether, consideration should be given to the use of optical character recognition equipment. Simple coding errors can still be detected through a preliminary review of the data before processing it.

State Agencies Roles

Each State has an agency, department, or commission which is responsible for regulating some, if not all, methods of intrastate commercial freight transportation. These agencies usually have two objectives. The first objective is to regulate intrastate carriers rates and routes. The second objective is to improve transportation safety. It is the latter objective which is of interest to environmental and health protection agencies. Reducing transportation accidents involving hazardous materials and hazardous wastes reduces the potential for harm which could result from the accidental release of

these materials and wastes into the environment. Reducing the accidents involving hazardous materials also reduces the quantity of hazardous materials which become hazardous wastes as the result of transporation accidents.

The importance of cooperation between environmental and transportation regulatory agencies in this area should be stressed. In one State, Minnesota, the legislature has directed the Public Service Commission to set hazardous waste standards in cooperation with the Pollution Control Agency. Other States have established hazardous waste transportation control programs which are independent of the transportation regulatory agencies. Appendix E is a partial list of the States which have established waste handling and transportation regulatory and control programs. Appendix F is a list of the State agencies, departments, and commissions which regulate motor carriers as well as other forms of commercial freight transportation.

Interstate Cooperation

If a hazardous waste is generated in one State and transported to another State for treatment or disposal, the waste hauler should be required to obtain hazardous waste transportation permits from the States which he will pass The various States should develop agreements to exchange information concerning the movement of interstate The objective of this information hazardous waste shipments. exchange is to be sure that the hazardous wastes are actually reaching their assigned destinations and not being dumped in There are two occasions on which the exchange of information is especially important. The first occasion is when a State learns from its permit applications that a waste generated within the State may be shipped to another State. The other State(s) involved should be notified and should respond by sending permit information to the hauler. second occasion is when a State learns through the hazardous waste shipping papers that a waste has been transfered from or to another State. If the waste does not reach its destination, an investigation should be initiated to determine the disposition of the waste and the hauler's fitness to continue to transport hazardous wastes.

Equipment Operator Training

Each State should develop a training program for hazardous wastes handling and transportation equipment operators. Topics should include the special problems and potential hazards posed by the transportation and disposal

of industrial and commercial process wastes; information concerning specific wastes; and equipment inspection techniques. Some of the special problems which deserve attention include the consequences of mixing incompatible wastes; tank and container clean-out techniques; and the steps which should be taken immediately following the unintentional discharge of a hazardous waste. Equipment operator training should be a continuing program with periodic sessions to refresh and upgrade the equipment operators' knowledge of the wastes which they are handling.

Program Resources

The resources required to implement a State hazardous waste transportation control program will of course vary from State to State, depending upon the quantity of hazardous waste generated and shipped in each State. A State which issues approximately 400 permits per year would probably require about six man-years of effort and a budget of \$185,000 each year to process data, prepare reports, and to investigate and prepare enforcement cases. A larger State which issues approximately 800 permits per year would probably require as much as twelve man-years effort and a budget of \$355,000 each year to do the same tasks. Table 1 shows the type and number of man-years which would be required to operate these two different sized hazardous waste transportation control programs.

Federal Programs

The U.S. Department of Transportation (DOT) has published regulations which set standards for the packaging and labeling of hazardous materials. These regulations include a list of hazardous materials and hazardous material definitions. Summaries of the hazardous material definitions are shown in Appendix G. Any material, including waste, which is classified as hazardous persuant to the DOT definitions, must be packaged and labeled to comply with DOT regulations. Any carrier who handles hazardous materials (and hazardous wastes) must comply with the DOT regulations pertaining to equipment construction; tank and container testing; and placarding.

Pursuant to the "Transportation Safety Act of 1974," the DOT registration, packaging, labeling, and testing requirements apply to any shipment of hazardous materials, even though it may only be an intrastate shipment. 5 In addition, any State requirements which are inconsistent with

TABLE 1

ESTIMATED EFFORT REQUIRED FOR A STATE
HAZARDOUS WASTE TRANSPORTATION CONTROL PROGRAM*

<u>Task</u>	400 permits per year Man-years	per year
Supervision	1	1
Legal Counseling	. 25	. 25
Permit Evaluation & Checking	1	3
Field Inspection	1	3
Training & Instruction	1	2
Keypunch Operation	1	2
Clerical & Typing	1	1
TOTAL	6.25	12.25

*Source: Office of Solid Waste Management Programs, estimates

the DOT requirements are preempted, unless specifically approved by the Secretary of Transportation. This Act does not prohibit the development of a State hazardous waste transportation control program, but it does specify some of the program parameters.

The DOT regulations and definitions were developed to promote transportation safety, but not to protect the environment. Therefore, wastes which are considered hazardous materials pursuant to the DOT definitions and list are only a subset of the wastes which would be considered hazardous for hazardous waste management purposes. Asbestos-containing waste is an example of waste which, if disposed of improperly, is hazardous, but would not be classified as such by DOT definitions. Asbestos wastes, as well as other hazardous wastes, should be regulated by a State's hazardous waste transportation control program.

Permits are not issued by the DOT. The Interstate Commerce Commission (ICC) does issue permits to some types of motor carriers. The ICC recognizes three classes of motor carriers: common carriers (i.e., carriers which carry specific commodities between specific points); contract carriers (i.e., carriers with one to eight customers); and unregulated carriers. Unregulated carriers do not receive permits from the ICC and include intrastate carriers, private carriers (i.e., company owned and operated trucks), and exempted carriers (i.e., livestock and produce carriers).

To obtain a permit from the ICC, applicants must demonstrate that there is a need for the service, prove their fitness to perform the service, and if hazardous materials are involved, the applicant must not have flagrantly violated the DOT hazardous material regulations. An applicant's fitness is only investigated if the application is challenged by some interested party (i.e., another carrier). Permits issued to hazardous material carriers expire after five years and must be renewed by making a new application.

REFERENCES

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- 2. Christensen, H. E., T. T. Luginbyhl, B. S. Carroll. Registry of toxic effects of chemical substances: 1975 edition. Washington, U.S. Government Printing Office, June 1975. 1296 p.
- 3. Minnesota Statutes 1971, sec. 116.07, subdivision 4; as amended, March 2, 1974.
- 4. Hazardous Materials Regulations Board. Code of Federal Regulations, Title 49 (Transportation), Pts. 100-199, 1973.
- 5. Transportation Safety Act of 1974; Title I of Public Law 93-633, 93d Cong., H.R. 15233, Jan. 3, 1975.
 [Washington, U.S. Government Printing Office, 1975] 9 p. (88 Stat. 2156-2164, 49 U.S.C. 1801-1812).

Appendix A: New Jersey's Registration Statement for a Solid/Liquid Waste Collector or Hauler

	NEW JERSEY STATE DEPARTMENT OF ENVIRONMENTAL PROTECTION BUREAU OF SOLID WASTE MANAGEMENT P.O. BOX 2807 TRENTON, N.J. 08625	REGISTRATION STATEMENT FOR A SOUD/LIQUID WASTE COLLECTOR OR HAULER		
		PRINT OR TYPE ONLY		
1		INCOMPLETE OR IMPROPERLY PREPARED		
		APPLICATIONS WILL BE RETURNED.		
		COMPLETE BOTH SIDES OF FORM		
	If the above name and address of registrant is incorrect or missin dicated. Use SSN ONLY if you do not, have a FEID.	g enter <u>only</u> the corrected information where in-		
1	FEDERAL EMPLOYER ID NO.	SOCIAL SECURITY NUMBER		
1	² F FEIDOR	SSN S = = =		
	APPLICANTS NAME - LAST COMPANY OR TRADE NAME	FIRST 4, 1 34 TITLE		
	48 COMPART ON TRADE NAME			
	STREET ADDRESS			
		TELEPHONE		
2	38 STATE 54 ZIP CODE	SPINAREA 62 NUMBER		
_				
	2. NEW STATEMENT 69 UPDATED STATEMENT 70 RECISTRATION NO.			
	3. TYPE ORGANIZATION (Check only one)			
	1 PROPRIETOR 2 PARTNERSHIP 3 5 COUNTY 6 UNIT STATE GOV. 7 9 OTHERS HAULING OWN WASTE	INCORPORATED 4 MUNICIPALITY AUTHORITY 8 HOMEOWNER		
	4. TYPE OF WASTE (Check all applicable areas)			
	(14) 1 MUNICIPAL (HOME, COMM, INSTITU.)	TANK WASTE		
		GE PLANT SLUDGE		
	1' ' ' '	O CHEMICAL (INCL. HAZARDOUS) TRIAL & OTHER		
3				
"	5. PUC LICENSED? 22 NO 22 YES 23 PUC CERTIFICATE NUMBER			
6. FEES MUST BE SUBMITTED BY <u>CERTIFIED CHECK</u> OR <u>MONEY ORDER-PAYABLE TO</u> "TREASURER, ST JERSEY" REFER TO N.J.A.C. 7:26-4 FOR FEE SCHEDULE.				
CHECK OR MONEY ORDER NO. 27 AMOUNT AMOUNT AMOUNT				
, !	I CERTIFY THAT THE INFORMATION SUBMITTED ON BOTH SIDES OF THIS FORM AND ANY ATTACHMENTS APPENDED ARE TRUE TO THE BEST OF MY KNOWLEDGE, MY ID NUMBER AND SIGNATURE ARE ON ALL ATTACHMENTS.			
	41 MC DAY YR.			
	SIGNATURE TITLE DATE			
	47 MO DAY YR.			
L	7. OFFICIAL USE ONLY Date Approved	SIGNATURE		
	N I BSWM-43	4.74		

DA DADTAIGDS OF OFFICERS OF CODE COVERNIAGENTAL BODY OF BUILD ANTHODITIES				
	8A. PARTNERS OR OFFICERS OF CORP., GOVERNMENTAL BODY OR PUBLIC AUTHORITIES LAST NAME 13 1 14 TITLE			
	13 13 14 14 14 14 14 14 14 14 14 14 14 14 14			
4	13 3 1 7 7 7 7 7 43 7 44 7 7 7 7 7 7 7 7 7 7 7			
	13,			
-	R CORPORATION DATA			
	B. CORPORATION DATA 13 STATE 15 COUNTY 25 MO DAY YR.			
5	REGISTERED IN - 13 TALE 15 COUNTY DATE			
	31 AGENT - LAST NAME 49 FIRST NAME			
	13 AGENT - STREET ADDRESS			
6	AGENT - CITY 51 STATE 54 ZIP CODE 59 AREA 62 NUMBER			
	38 AGENT - CITY 51 STATE 54 ZIF COTE 59 ARCA 62 TOWNSEN			
 	9. LIST ALL VEHICLE LICENSE NUMBERS FOR WHICH YOU DESIRE AN APPROVED REGISTRATION. Indicate in the			
	first box the state code (shown below) of the registered vehicle and the last six (6) characters of the license			
	number. (If more space is needed attach a sheet with additional license numbers).			
	STATE CODES - (1) N.J (2) N.Y (3) PA (4) DEL (5) OTHER			
7	STATE CODE 14 LICENSE NUMBER CODE 21 LICENSE NUMBER CODE 28 LICENSE NUMBER			
	(13) 1 (20) 2 (27) 3			
1	(34) 4 33 (41) 5 42 . (48) 6 77			
	(55) 7 56 (62) 8 63 (69) 9 70			
	Check here if additional 76 TOTAL VEHICLES 77			
	list is attached (INCLUDING ADDITIONAL LIST)			
	10. OPERATIONAL DATA Indicate actual inclusive dates used in reporting this data (12 month period).			
	HO L DAY I VB			
	PERIOD FROM 13 PERIOD TO 19 PERIOD TO			
8	25 ORIGIN-MUNICIPALITY (CITY) 39 ORIGIN-COUNTY			
	*WASTE CODE .			
	49 TONS OR GALLONS (IN 1,000'S) 57 DISPOSAL-MUNICIPALITY (CITY) 70 DISPOSAL-COUNTY			
	13 ORIGIN-MUNICIPALITY (CITY) 27, ORIGIN-COUNTY			
9	*WASTE CODE			
(1)	37 TONS OR GALLONS (IN 1,000'S) 45 DISPOSAL-MUNICIPALITY (CITY) 58, DISPOSAL-COUNTY			
	13 ORIGIN-MUNICIPALITY (CITY) 27 ORIGIN-COUNTY			
9	*WASTE CODE			
(2)	37 TONS OR GALLONS (IN 1,000'S) 45 DISPOSAL-MUNICIPALITY (CITY) 58 DISPOSAL-COUNTY			
<u> </u> -	ORIGINALITY (STY)			
ا ا	*WASTE CODE 13 ORIGIN-MUNICIPALITY (CITY) 27 ORIGIN-COUNTY			
9 (3)	37 TONS OR GALLONS (IN 1,000'S) 45 DISPOSAL-MUNICIPALITY (CITY) 58 DISPOSAL-COUNTY			
	NOTE - REFER TO ITEM 4 FOR WASTE CODES			
	IF ADDITIONAL SPACE IS REQUIRED FOR OPERATIONAL DATA			

Special Instructions for Completing Items 5, 6 and 10 of Registration Statement for a Solid/Liquid Waste Collector or Hauler

- A. PRIVATE AUTOMOBILES AND STATION WAGONS NEED NOT REGISTER.
- B. In order to properly complete Item 10 of the <u>Registration Statement for a Solid/Liquid Waste Collector or Hauler</u>, it may be necessary to convert cubic yards of waste to tons where the actual weight of the wastes collected have not been determined through the use of scales. To convert from cubic yards to tons, simply multiply the volume (in yards) by the appropriate factor listed below.
 - 1. For Municipal-Type Wastes (Household, Commercial, Institutional):

in Non-Compacting Vehicles: Multiply cubic yards by 0.12

in Compactor Trucks up to 20 c.y. capa ity: Multiply cubic yards by 0.25

in Compactor Trucks with capacity between 21 and 25 c.y.: Multiply cubic yards by 0.35

in Compactor Trucks with capacity over 25 c.y.: Multiply cubic yards by 0.40

2. For Construction, Demolition, Yard Wastes, and Other Bulky Wastes:

Multiply cubic yards by 0.20

3. For Dry Chemicals (liquids should be entered as gallons):

Multiply cubic yards by 2.0

- C. For out-of-state wastes only (Item 10), enter the name of the state (New York-Penna.-Delaware-Other) in blocks marked County.
- D. For Public Utility Commission Certificate Number (Item 5) in excess of four digits, use only the last four digits and place an asterisk (*) to the right of the blocks.
- E. Fees (Item 6) Annually: 1st vehicle (each registrant) = \$45.00

each additional vehicle
 (same registrant) = 5.00

F. Item 10 Report actual tons of solid materials and thousands of gallons for liquid materials.

EXAMPLE:

22 cubic yard compactor, 5 loads per day municipal waste, 6 days per week, 52 weeks per year (for this example use factor of 0.35)

52 0.35 12012 22 х 5 6 cubic yards loads days per weeks factor for Tons per year per load per day week per year vehicle and type of waste

Return application NO LATER THAN JUNE 15, 1974

HAZARDOUS WASTE TRANSPORTATION PERMIT APPLICATION Part A.

Part B. If the information required for enter only the corrected or mis	Part A is incorrect or missing ssing information here.
г	s
Federal Employer Identification Number	OR Social Security Number
Applicant's Name - Last F.	irst I
Title* ()	
Company or Organization Name	
Mailing Address	
City — — — — — — — — —	State* Zip Code
Part C. New ApplicationRenewal applicat	ion for an existing permit
Organization Type*	Total number of employees Number of employees involved in hazardous waste transportation
Part D. I certify that the information submitted Transportation Permit Application is tr best of my knowledge.	
Signature Da	te
*Use the codes included with the permit	application instructions.

transportation equipment associated with each. If more space is needed, attach additional sheets with the required information.
Facility Name
Facility Street Address Facility Type*
City State* Zip Code
Area Code Telephone No.
License or other no. State* Equipment Auxilary Equipment Codes* Capacity Units: gals. cu.yd. bbls. (42 gals.) other (specify Hazardous Waste Equipment Identification Number
License or other no. State* Equipment Auxilary Equipment Codes* Capacity Units: gals. cu.yd. bbls. (42 gals.) other (specify)
Hazardous Waste Equipment Identification Number
License or other no. State* Equipment Auxilary Equipment Codes*
Capacity Units:galscu.ydbbls. (42 gals.) other (specify) Hazardous Waste Equipment Identification Number
Check here if additional information for Part E is attached. Federal Employer ID No. OR Social Security No.:
* Use the codes included with the permit application instructions

Part E. List each garage, terminal, or yard and the hazardous waste

Facility Name	
Facility Street Address	
City	State* Zip Code
() Area Code Telephone No.	Facility Type*
Facility Name	
Facility Street Address	
City	State* Zip Code
()Area Code Telephone No.	Facility Type*
Facility Name	
Facility Street Address	
City	State* Zip Code
()Area Code Telephone No.	Facility Type*
Check here if additional informat Federal Employer ID No. OR Social Sec	
* Use the codes included with the per	cmit application instructions.

Part F. List each hazardous waste disposal or treatment site which is operated by the organization, but not shown in Part E.

Part G. List each hazardous waste disposal and treatment site (other than those shown in Parts E and F) which will be the destination of your hazardous waste consignments.

Facilty Name		
Facility Street Address		
City	State*	Zip Code
Facility Type*		
Facilty Name		
Facility Street Address		
City	State*	Zip Code
Facility Type*		
Facilty Name		
Facility Street Address		
City	State*	Zip Code
Facility Type*		
Check here if additional information for Part G is attached Federal Employer ID No. OR Social Security No.:		

^{*} Use the codes included with the permit application instructions.

PART H. For each hazardous waste which you will be handling during the coming year provide the following information.

treet Address:	City:	
tate:	Zip Code:	
heck <u>all</u> appropriate cate	gories.	
Class A Explosive Class B Explosive Class C Explosive Flammable Liquid Pyroforic Liquid Combustible Liquid Flammable Solid	Data processing fluid Electrolyte, acid Etching acid liquid or solvent Lime and water Lime sludge Lime wastewater	Waste epoxy Wyandotte cleane Waste contains: Mercury Lead
Oxidizing Agent Corrosive Material Compressed Gas Flammable Compressed Gas Class A Poison Class B Poison Irritating Material	Liquid cement Liquid cleaning compounds Obsolete explosives Oil of bergamot Paint remover of stripper	Chrome Cyanide Chlorine Florine Chlorites Hypochlorites Perchlorates
Tritating MaterialEtiologic AgentRadioactive MaterialCarcinogenTeratgenMutagen	Paint waste Petroleum waste Pickling liquor Powdered orris root Printing ink Refinery waste Retrograde explosives Sludge acid	Permanganates Peroxides Alcohols Aldehydes Nitrated hydrocarbons Unsaturated hydrocarbons
Acetylene sludge Acid and water Acid sludge Alkaline caustic liquids Alkaline cleaner Alkaline corrosive battery fluid Alkaline corrosive liquids Asbestos waste Battery acid Berylium waste Catalyst Caustic wastewater Chemical cleaners Cleaning solvents	Solvents Spent acid Spent caustic Spent cyanide solutions Spent mixed acid Spent plating solutions Spent sulfuric acid Toxic chemical toilet wastes Toxic tank sedements Unrinsed pesticide containers Waste pesticides Waste chemicals	Chlorates Metal hydrides Powdered zinc Asbestos Beryllium Organic acid Halogenated hydrocarbons

Appendix C: An Example of Hazardous Waste Shipping Papers

Shipper Identification

Date of Shipment:	
Federal Employer Identification Number:	
Business Name:	
Business Mailing Address:	
Shipment Origin:	
Emergency Telephone No.:	
Proper DOT Shipping Name:	
Quantity:	
Quantity: Composition and Concentration:	
Topposition and concentration.	
Potential Hazards and Recommended Precautions:	
Totelital hazards and kecommended frecautions:	
Doctionation	
Destination:	
Certification:	
I certify, under penalty of perjury, that the foregoing is true and correct.	
	_
Signature of authorized agent and title Telephone No.:	_
Waste Hauler Identification	
Permit No.:Expiration Date:	_
Business Name:	_
Business Address:	
Business Telephone No.:	_
Operator's Name:	
Certification: I certify, under penalty of perjury, that the foregoing shipment was delivered to the following destination.	
Signature of Equipment Operator	
Destination Identification	
Descination identification	
Permit No.:Expiration Date:	
Facility Location:	•
Business Name:	•
Business Mailing Address:	
Date of Receipt:	
Certification:	
I certify, under penalty of perjury, that the foregoing shipment was	;
delivered to this facility.	
Signature of authorized agent and title	-
<u>. </u>	

Appendix D: U.S. Department of Transportation Hazardous Materials Incident Report

	DEPARTMENT OF TRANSPORTATION Form Approved OMB No. 04-5613					
	HAZARI	OUS MATERIAL	S INCIDENT REPO	₹		
ii m	NSTRUCTIONS: Submit this report in dupli fransportation, Washington, D.C. 20590, (a tem under Section II, "Remarks", keying may be obtained from the Secretary, fluxare may be reproduced and used, if on the sam-	ATTN: Op. Div.). to the entry number lous Materials Regu	If space provided for being completed. Cop- lations Board. Additi	any ies	tem is inadequate, complete that of this form, in limited quantities,	
A	INCIDENT					
			FREIGHT		OTHER	
	1. TYPE OF OPERATION 1 AIR 2 HIGHWAY 3 RA	•	5 FORWARDER	6	(Identify)	
	2. DATE AND TIME OF INCIDENT (Month -	Day - Year)	3. LOCATION OF INC	DE	NT	
		a.m.				
В	REPORTING CARRIER, COMPANY OR INDI	VIDUAL				
	4. FULL NAMÉ		5. ADORESS (Number,	Stra	et, City, State and Zip Code)	
	6. TYPE OF VEHICLE OR FACILITY					
U	SHIPMENT INFORMATION					
	7. NAME AND ADDRESS OF SHIPPER (Ong	in address)	8. HAME AND ADDRE	\$5 (OF CONSIGNEE (Destination address)	
1	9. SHIPPING PAPER IDENTIFICATION NO	•	10. SHIPPING PAPER	\$ 15		
			CARRIER		SHIPPER	
ļ			OTHER			
l			(Identily)			
!]		l			
P	DEATHS, INJURIES, LOSS AND DAMAGE					
1	DUE TO HAZARDOUS!	Z. NUMBER PERSON		' 3.	ESTIMATED AMOUNT OF LOSS AND/OR PROPERTY DAMAGE INCLUDING COST	
ł					OF DECONTAMINATION (Round off in dollars)	
l	14. ESTIMATED TOTAL QUANTITY OF HA	ZARDOUS MATERIA	LS RELEASED		-	
[1					
ε	HAZARDOUS MATERIALS INVOLVED	 		<u> </u>		
-			D. 1.5 1.1 1.5	Г		
1	15. CLASSIFICATION (Sec. 172.4)	(Sec.	PING NAME . 172.5)	1	17. TRADE NAME	
	1			1		
_				L		
F	NATURE OF PACKAGING FAILURE					
1	18. (Check all applicable boxes)			_		
	(1) DROPPED IN HANDLING	(2) EXTERNAL	PUNCTURE		(3) DAMAGE BY OTHER FREIGHT	
	(4) WATER DAMAGE	(5) DAMAGE FR	OM OTHER LIQUID	L	(6) FREEZING	
	(7) EXTERNAL HEAT	(8) INTERNAL F	PRESSURE		(9) CORROSION OR RUST	
	(10) DEFECTIVE FITTINGS. VALVES, OR CLOSURES	(11) LOOSE FIT CLOSURES	TINGS, VALVES OR		(12) FAILURE OF INNER RECEPTACLES	
١	(13) BOTTOM FAILURE	(14) BODY OR	SIDE FAILURE		(15) WELD FAILURE	
L	(16) CHIME FAILURE	(17) OTHER CO	NOITIONS (Identily)	19.	SPACE FOR DOT USE ONLY	
Fa	DOT F 5800.1 (10-70)					

P	ACKAGING INFORMATIO	N-11 more than one wize a space is needed, use So	or type package ection H "Kema	ng is involved in loss rks" below keying to t	of material show packs he tem number.	ging information
-	ITEM		=1		*2	= 3
20	TYPE OF PACKAGING RECEPTACLES (Siee)		·			
Cylindar, e-t.) CAPACITY OR WEIGHT PER UNIT (55 gallons, 65 lbs., etc.)						
22	NUMBER OF PACKAGE					
	NUMBER OF PACKAGE	ES OF SAME TYPE				<u> </u>
23	DOT SPECIFICATION PACKAGES (21P, 17E,					
	SHOW ALL STHER DO		····			
	MARKINGS (Part 178) NAME, SYMBOL, OR R	EGISTRATION NUM-				<u> </u>
26	BER OF PACKAGING I	MANUFACTURER				
27	CARGO TANKS, TANK	CARS, PORTABLE			·· <u>•</u> •••	
28	TYPE DOT LABEL(S)	APPLIED REGISTRATION				
29	IF RECONDITIONED	A NO. OR SYMBOL	····			
	OR REQUALIFIED, SHOW	B DATE OF LAST TEST OF INSPEC- TION				
30	IF SHIPMENT IS UNDE SPECIAL PERMIT, EN	A DOT OR USCG TER PERMIT NO.				
, N	AME OF PERSON PREP	ARING REPORT (Type o	or print)	32. SIGNATURE		
	ELEPHONE NO. (Includ	a Assa Cadal		34. DATE REPORT	00504050	

Reverse of Form DOT F 5800.1 (10-70)

Appendix E: Partial List of States with Waste Transportation Regulations

l. California

Hazardous Waste Management Program Vector Control Section California Department of Health 744 P Street Sacramento, California 95814

Hazardous waste haulers are required to carry manifests which describe the materials which they are hauling. Copies of the manifests are submitted to the State each month by the waste sources and the waste sinks. The State collects a fee based on the quantity of hazardous waste delivered to the waste sinks.

2. Indiana

Industrial Waste Disposal Section Division of Water Pollution Control Indiana State Board of Health 1330 West Michigan Street Indianapolis, Indiana 46206

Liquid industrial waste haulers are required to obtain a permit from the State and to submit monthly reports providing information concerning the wastes transported to the State. The State inspects waste transportation equipment. The State collects a fee based on the number of vehicles listed on the permit application.

3. Kentucky

Division of Solid Waste
Department for Natural Resources
and Environmental Protection
Frankfort, Kentucky 40601

Hazardous waste haulers are required to obtain a permit from the State. Vehicles and containers are to be labled with the phrase "Hazardous Waste" and the hauler's permit number. Haulers are required to provide information about the hazardous wastes which they intend to handle with the permit application.

4. New Jersey

Bureau of Solid Waste Management
New Jersey State Department of Environmental
Protection
P.O. Box 2807
Trenton, New Jersey 08625

Liquid and solid waste haulers are required to register with and receive approval from the State. Hazardous waste haulers are required to obtain a bill of lading from the generator listing the materials to be hauled. The State collects fees based on the number of vehicles listed on the registration statement.

5. New York

Division of Solid Waste Mangement
New York State Department of Environmental
Conservation
50 Wolf Road
Albany, New York 12201

Septic tank cleaners and industrial waste haulers are required to obtain certificates of registration from the State. The number of the certificate is to be displayed on the cleaning or holding tank equipment. Registrants are required to submit annual reports to the State. The State collects a registration fee which is independent of the number of vehicles which are registered by each hauler.

6. South Carolina

Solid Waste Mangement Division
Department of Health and Environmental
Control
J. Marion Sims Building
2600 Bull Street
Columbia, South Carolina 29201

Solid waste collectors are required to obtain a permit from the State. The State inspects vehicles and equipment. used to collect and transport solid wastes.

- Alabama Public Service Commission P.O. Box 991 Montgomery 36102
- Alaska Transportation Commission 1000 MacKay Building 338 Denali Street Anchorage 99501
- Arizona Corporation Commission 1688 W. Adams -- Room 216 Phoenix 85007
- Arkansas Transportation Commission
 Justice Building
 State Capitol
 Little Rock 72201
- California Public Utilities Commission California State Building 350 McAllister Street San Francisco 94102
- Colorado Public Utilities Commission 500 Columbine Building 1845 Sherman Street Denver 80203
- Connecticut Public Utilities Commission State Office Building 165 Capitol Avenue Hartford 06115
- Delaware Department of Transportation P.O. Box 778 Dover 19901
- District of Columbia Public Service
 Commission
 Cafritz Building
 1625 I Street, N.W.
 Washington 20006
- Florida Public Service Commission 700 S. Adams Street Tallahassee 32304

- Georgia Public Service Commission State Office Building 244 Washington Street, S.W. Atlanta 30334
- Hawaii Public Utilities Commission P.O. Box 541 Honolulu 96809
- Idaho Public Utilities Commission Statehouse Boise 83720
- Illinois Commerce Commission Leland Building 527 E. Capitol Avenue Springfield 62706
- Indiana Public Service Commission 901 State Office Building Indianapolis 46204
- Iowa State Commerce Commission State Capitol Des Moines 50319
- Kansas State Corporation Commission State Office Building Topeka 66612
- Louisiana Public Service Commission P.O. Box 44035, Capitol Station Baton Rouge 70804
- Maine Public Utilities Commission State House Annex Capitol Shopping Center Augusta 04330
- Maryland Public Service Commission 904 State Office Building 301 W. Preston Street Baltimore 21201
- Massachusetts Department of Public
 Utilities
 100 Cambridge Street
 Boston 02202

- Michigan Public Service Commission
 Law Building
 525 W. Ottawa Street
 Lansing 48913
- Minnesota Public Service Commission 400 State Office Building St. Paul 55155
- Mississippi Public Service Commission
 19th Floor
 Walter Sillers State Office
 Building
 P.O. Box 1174
 Jackson 39205
- Missouri Public Service Commission Jefferson Building Jefferson City 65101
- Montana Public Service Commission 1227 11th Avenue Helena 59601
- Nebraska Public Sevice Commission 1324 M Street Lincoln 68508
- Nevada Public Service Commission 222 E. Washington Street Carson City 89701
- New Hampshire Public Utilities
 Commission
 26 Pleasant Street
 Concord 03301
- New Jersey Board of Public Utility
 Commissioners
 101 Commerce Street
 Newark 07102
- New Mexico State Corporation Commission P.O. Drawer 1269 Santa Fe 87501
- New York State Department of
 Transportation
 1220 Washington Avenue
 Building 5 -- State Campus
 Albany 12226

- North Carolina Utilities Commission P.O. Box 991 Raleigh 27602
- North Dakota Public Service Commission State Capitol Building Bismarck 58501
- Ohio Public Utilities Commission 111 N. High Street Columbus 43215
- Oklahoma Corporation Commission
 Jim Thorpe Office Building
 201 Lincoln Boulevard
 Oklahoma City 73105
- Oregon Public Utility Commissioner 200 Public Service Building Salem 97310
- Pennsylvania Public Utility
 Commission
 P.O. Box 3265
 Harrisburg 17120
- Rhode Island Public Utilities
 Commission
 State Office Building
 169 Weybosset Street
 Providence 02903
- South Carolina Public Service
 Commission
 P.O. Box 11649
 Columbia 29211
- South Dakota Public Utilities
 Commission
 Capitol Building
 Pierre 57501
- Tennessee Public Service Commission C1-102 Cordell Hull Building Nashville 37219
- Texas Railroad Commission
 Motor Transportation Division
 P.O. Drawer 12967
 Austin 78711

Utah Public Service Commission 330 East 4th South Street Salt Lake City 84111

Vermont Public Service Board State Office Building 7 School Street Montpelier 05602

Virginia State Corporation Commission Blanton Building P.O. Box 1197 Richmond 23209

Washington Metropolitan Area Transit Commission 1625 I Street, N.W. Washington, D.C. 20006

Washington Utilities and Transportation
Commission
Highways-Licenses Building
Olympia 98504

West Virginia Public Service Commission Capitol Building, Room E-217 Charleston 25305

Wisconsin Public Service Commission
432 Hill Farms State Office Building
4802 Sheboygan Street
Madison 53702

Wyoming Public Service Commission Supreme Court Building Cheyenne 82001 Appendix G: U.S. Department of Transportation Hazardous Materials Definitions

The following definitions have been abstracted from the Code of Federal Regulations, Title 49-Transportation, Parts 100-199. Refer to the referenced Sections for complete details.

NOTE: Rule making proposals are outstanding or are contemplated concerning some of these definitions.

CLASSIFICATION	DEFINITIONS
EXPLOSIVES	Any chemical compound, mixture, or device the primary or common purpose of which is to function by explosion, i.e., with substantially instantaneous release of gas or heat, unless such compound, mixture, or device is otherwise specifically classified in Parts 170-189 of this chapter. (Sec. 173.50)
Class A	Detonating or otherwise of maximum hazard. There are nine types of Class A explosives all defined in Sec. 173.53.
Class B	In general, function by rapid combustion rather than detonation and include some explosive devices such as special fireworks, flash powder, etc. Flammable hazard. (Sec. 173.88)
Class C	Certain types of manufactured articles containing Class A, or Class B explosives, or both, as components but in restricted quantities, and certain types of fireworks. Minimum hazard. (Sec. 173.100)
FLAMMABLE LIQUID	Any liquid having a flash point below 100°F (37.8°C) as determined by tests prescribed in Sec. 173.115.
PYROFORIC LIQUID	Any liquid that ignites spontaneously in dry or moist air at or below 130°F. (Sec. 173.115)
COMBUSTIBLE LIQUID	Any liquid having a flash point at or above 100°F (37.8°C), and below 200°F (93.3°C). (Sec. 173.115(a)(2))

CLASSIFICATION	DEFINITIONS
FLAMMABLE SOLID	Any solid material, other than an explosive, which is liable to cause fires through friction, absorption of moisture, spontaneous chemical changes, retained heat from manufacturing or processing, or which can be ignited readily and when ignited burns so vigorously and persistently as to create a serious transportation hazard. (Sec. 173.150)
OXIDIZING MATERIAL	A substance that yields oxygen readily to stimulate the combustion of organic matter. (Sec. 173.151)
CORROSIVE MATERIAL	Any liquid or solid that causes destruction of human skin tissue or a liquid that has a severe corrosion rate on steel or aluminum. (Sec. 173.240 (a) and (b))
COMPRESSED GAS	Any material or mixture having in the container pressure exceeding 40 psi at 70°F or, having an absolute pressure exceeding 104 psi at 130°F. (Sec. 173.300(a))
FLAMMABLE COMPRESSED GAS	Any flammable material or mixture having in the container a pressure exceeding 40 psi at 100°F. (Sec. 173.300)
POISONS Class A	Extremely dangerous poisons. Poisonous gases or liquids of such nature that a very small amount of the gas, or vapor of the liquid, mixed with air is dangerous to life. (Sec. 173.326)

prescribed in Sec. 173.343.

Class B

Less dangerous poisons. Substances, liquids

or solids (including pastes and semi-solid), other than Class A poisons or irritating materials, which are known to be so toxic to man as to afford a hazard to health during transportation; or which in the absence of adequate data on human toxicity, are toxic to laboratory animals as determined by tests

CLASSIFICATION	DEFINITIONS
IRRITATING MATERIAL	A liquid or solid substance which upon contact with fire or when exposed to air gives off dangerous or intensely irritating fumes, but not including any poisonous material, Class A. (Sec. 173.381)
ETIOLOGIC AGENT	An etiologic agent means a viable micro-organism, or its toxin which causes or may cause human disease. (Sec. 173.386)
RADIOACTIVE MATERIAL	Any material, or combination of materials, that spontaneously emits ionizing radiation, and having a specific activity greater than 0.002 microcuries per gram. (Sec. 173.389)

Source: U.S. Department of Transportation, Federal Highway Administration, Bureau of Motor Carrier Safety

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